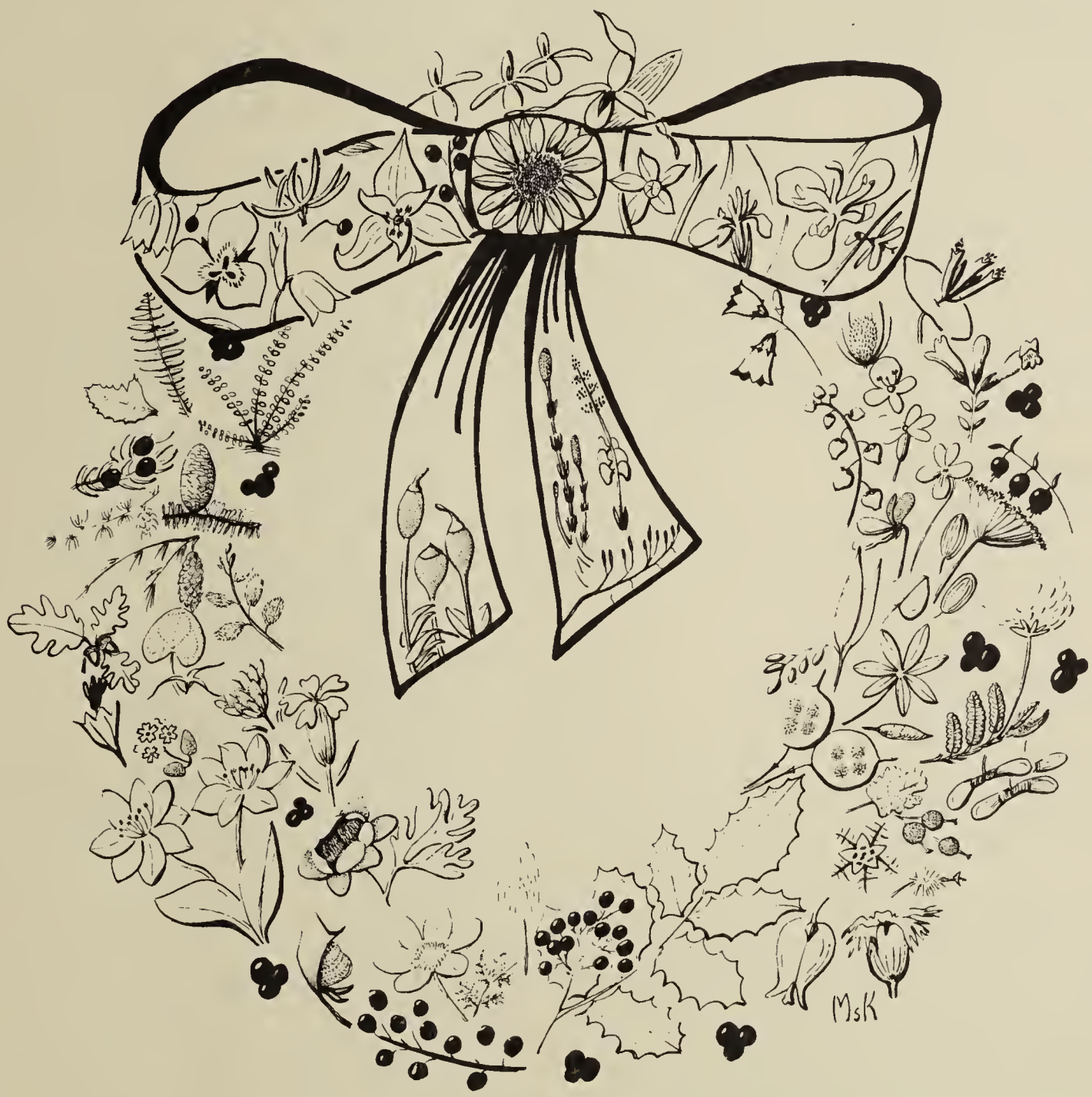
Horticulture Northwest

Journal of the Northwest Ornamental Horticultural Society



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Horticulture Northwest

Volume 8 Number 4
Winter 1981

Sallie D. Allen Editor

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IN SEARCH OF DIPLARCHE IN THE SIKKIM HIMALAYAS

Keshab C. Pradhan

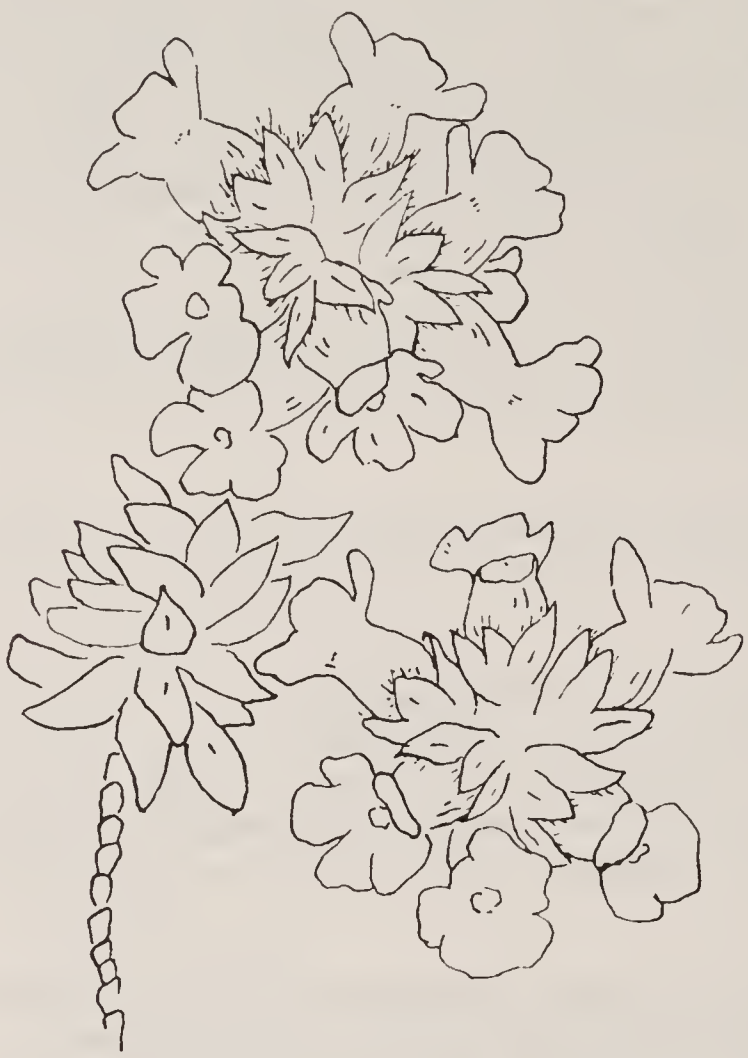
"When you are in the alpine areas of your country, I do hope you will look for *Diplarche multiflora* which has evergreen needle-like leaves, erect to nine inches, cylindrical pink flowers. Also, *D. pauciflora* which is just smaller than the other (or so described in the one and only reference I found on it). They are both endemic to Sikkim and Bhutan. They were described by Hooker. They are said to be the closest thing to a heather (resembling an *Erica*) in the Himalayas. Only *D. multiflora* was ever attempted, a few plants being sent by Ludlow and Sheriff to England. None of this collection remains. It would be thrilling to obtain small plants, propagate them and eventually introduce them. Would it be possible, if you found them, to send small plants?" This is what Sallie Allen, my friend from Seattle, writes as early as April 7, 1970.

My half-a-dozen sojourns in the high Sikkim Himalayas during the intervening period failed to trace this plant. A sense of embarrassment and reproach was haunting me.

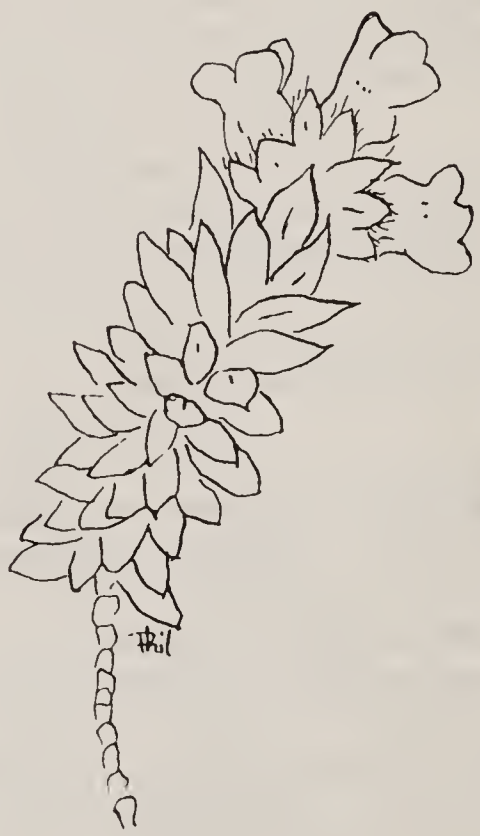
July 28, 1981, at Yumthang--situated at an altitude of 11,600 feet in the Sikkim Himalayas some 100 km. on the north from Gangtok, the capital of the State of Sikkum--was a dull day. I disposed of my vehicle and started off accompanied by two fellow officers of Forest Service and eight porters for an arduous trek to an area hitherto unfrequented much to the amazement of the people in the valley below.

We camped at an alpine meadow locally named Chemathang at an altitude of 13,500 feet amidst groves of alpine rhododendrons--mostly *Rhododendron anthopogan* and *R. setosum* which must have been in full bloom a fortnight ago. The following morning was another wet weather and our destination was the little-known valley of Laba on the other side of the mountain. The first six km. was continuance of rhododendron tract and we waded occasionally through acres and acres of *Primula sikkimensis* all at their best, encountered a beautiful patch of *Cassiope selaginoides* squeezing along side the slope of *C. fastigiata* all in their snowy glory before I found myself standing by the side of a beautiful lake--Berumtso (3/4 km. x 1/4 km.)--at an altitude of 14,500 feet located at approximately 27°49' latitude and 88°39' longitude.

As I lazed by the sandy flanks of the lake admiring the scenery around--the glaciers feeding the lake, the grey spires of granitic-jaggered rock piercing the sky above, milky-glaciated water--I suddenly looked nearby and dazed to see patches of distinct pretty pink flowers making a conspicuous feature of the sparse vegetation carpeting the flanks of the lake. Without least bothering to identify the plant, I plunged myself in photographing the plants. They were spectacular low-lying shrubs rising less than 10 inches from the ground with small rose-coloured cylindric flowers and crowded coracious leaves. The soil was sandy-loam and plants partially sheltered by the rocks were luxuriant in growth and profuse in bloom. When I was engrossed for over an hour, my fellow companions retraced their steps to remind me that unless we hurry up we might not be able to reach the destination as we have yet to cross over two passes of over 16,000 feet. I realized their anxiousness and moved forward only to be engrossed again in a patch of *Rheum nobile*--handsomest her-



DIPLARCHE MULTIFLORA X 1



DIPLARCHE PAUCIFLORA X 1

Illustration
Phil Pearson

baceous plant in Sikkim as per Hooker--and pretty prostrate *Rhododendron pumilum*. As we were heading toward the pass, I came across a few very unusual primulas, gentians, pedicularis androsacea, and host of other alpines.

We stood on the pass (Berum-la) at 1:00 P.M. at a height of 16,800 feet. We descended along a precipitous track by almost 2,000 feet only to climb again to cross another pass of almost equal height. The last two km. of the track leading to the pass was under waist-deep snow and we had to struggle for every step. With utter difficulty and completely exhausted, we reached the pass around 4:30 P.M. As we looked down the beautiful valley of Laba, some 2,000 feet below, we were pleasantly surprised to find that the porters had since reached from the shorter route and camp was since set. We rolled down in an exhilarated mood sliding on the snow, but stopping frequently to watch the high altitude pheasants and their young ones camouflaged with the patterned moraines and admiring the marvellous scenery around. It was a heaven for high-altitude wildlifer as the passes remain under snow most of the year round and yak graziers refrain coming here least the herd would be trapped in the valley.

As we were nearing the camp, I decided to spend as long as the day lasts exploring the plants around. A patch of dozen azure--blue flowers amidst potentillas caught my eyes. My mind flashed back to a questionaire sent by Louise Stevenson of Easton years back to some of the Members of ARGS on *Corydalis cashmiriana*. I rushed to the spot, parted carefully the leaves of other plants entangling the lanky stems and burrowed among the moraines to reach for the tubers. I looked again and again on these pretty flowers, never realizing that I shall come across this gem in the Sikkim Himalayas, though it was reported half-a-dozen times from this part of the Himalayas during the last 130 years. It was indeed a pleasant surprise and I felt myself highly rewarded. I reached the camp at 6:30 P.M. The high altitude and the day's strenuous march was already working in me and was feeling uncomfortable. I quickly slipped inside my tent, pleading my companions to leave me alone for a few hours.

As I was resting and recollecting pleasantly the day's journey and the findings of the day, I remembered the letter from Sallie and a picture of *Diplarche multiflora* (xerox copy from a journal) sent by her. Using a torch, I reached for the letter and the picture which I had tucked inside the famous monograph "The Vegetation of Zemu and Lhonak Valleys of Sikkim by W. W. Smith and G. H. Cave--1909" which is my companion while travelling in high Himalayas. I scrutinized it closely and yelled for my two companions who were inside another tent nearby, showed the picture and asked them to compare with the samples lying outside the tent. They were sure it was the same plant. I was excited with the findings but still was not sure of myself. It had deceived me for over a decade and to me it was too difficult a plant to come across!

I reached Gangtok on the evening of July 31st and rushed to Sallie a small sample and waited anxiously for the reply. She confirmed in her letter dated August 30th--"Your identification of the plant samples is correct. The *Cassiope selaginoides* is the most slender, dwarf form that I have ever seen. A dwarf form was introduced by Ludlow and Sheriff some years ago under an L&S number, but yours is much smaller than that....I am sure the other plant is Diplarche."

ALPINES '81 - MEMBER'S REPORT

Brian and Margaret Mulligan

So far no one has mentioned the spectacular show of alpine plants set-up in one of the large gymnasiums of the University. We remember particularly the primulas, *Primula sonchifolia*, *P. pallescens*, and the creamy-yellow, P. 'Kathleen Dryden',--the group of colorful pleiones in one corner which won a silver medal, many cyclamen, and Dr. J. G. Elliott's collection of fritillarias; cassiopes and other Ericaceous shrubs in large pans, as were many kinds of sempervivums and sedums; dwarf conifers, including another corner devoted to nothing but forms of the Scots pine, also in containers. Upstairs were the competitive classes for line drawings and photos, both in color and black and white; one could browse over these for a long time. Down in the big lecture hall was a long set of water-colored drawings of European alpine plants, most educational for us Westerners, and some meticulous needle-work of alpine plants worked into pictures or plaques.

On an afternoon trip during the Conference to Chatsworth in Derbyshire, 17th century home of the Dukes of Devonshire, besides the daffodils in the grass the most remarkable plants were the two small trees of the semi-double form of the beautiful rose-pink *Camellia reticulata*, in full bloom on the back wall of the greenhouse constructed for them in 1850. Also well-remembered are the rock walls and raised beds at the Royal Botanic Garden, Edinburgh, filled with an amazing collection of alpine plants from all parts of the world, thanks to the skill and knowledge of Alfred Evans and his staff; the visit to the Cox's garden and nursery between Perth and Dundee where the larger *Rhododendron* species were flowering up on the hill and the smaller in a densely-planted bed near the house, with many other ericaceous species among them. Then Jack Drake's nursery at Aviemore was full of lewisias, primulas, small narcissi and other fascinating treasures of the plant world.

In Ireland afterwards, the Burren in County Clare was undoubtedly the highlight of the tour, especially under the guidance of the very plant-knowledgeable Mrs. Keane of Lisdoonvarna, in whose hotel we stayed. Here *Gentiana verna* and *Dryas octopetala* were growing and flowering almost at sea level, while the ferns *Asplenium marinum* and *A. ruta-muraria* were pushing their fronds out of crevices in the horizontal slabs of limestone. *Ceterach officinarum* and *Saxifraga rubescens* were to be seen here also, and *Orchis purpurea* later in the day. Above the 600-feet high Cliffs of Moher, the flat slabs of Liscannon limestone stood on end to form walls, with turf on top.

On the outskirts of Dublin, the old walled garden of David Shackleton and family was a sheer delight, in the variety and quality of the rock garden and herbaceous plants to be seen there, and particularly the raised beds for ericaceous species unhappy in the naturally calcareous soil. At the National Botanic Garden at Glasnevin, Dublin, the striped and peeling bark of the Chilean *Myrtus luma* was not to be overlooked, nor the clusters of red buds on the Tasmanian shrub, *Ozothamnus ledifolius* at Malahide Castle--one which we should be able to grow here.

Ferns growing on the stone walls were a feature in many gardens we visited, due to the combination of a damp climate and limestone. At Abbeyleix, on our way back to Dublin, we were lucky to catch the sheets of wild bluebells (*Scilla*

non-scripta) almost at their peak in the oak woods; they can also be seen more easily at Kew Gardens near London. Lastly, who can forget the sumptuous afternoon teas most hospitably served to our small party in many of these delightful and often unique gardens, and especially the homemade cakes which formed part of them!

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Ruby French, Redmond, Washington

During the tours throughout England and Scotland, I was especially impressed with plants used in the woodland and water gardens. Great swathes of the yellow *Lysichitum Americanum* were delightful, but I was intrigued with the smaller white-spathed *L. camtschatcense* from Japan.

Even in the smaller gardens there were interesting water situations banked with meadows filled with various plants. We were there in the peak seasons of daffodils, bluebells, and eryathraniums in full bloom.

Among the heathers, the one I coveted was *Erica pageana*, the yellow-flowered one from Africa, which is probably tender for the Pacific Northwest and certainly for my Redmond area.

Of the larger plants, I liked the Chilean fire tree or *Embothrum caccineum*. I know there are many specimens of this South American shrub in the Seattle area, but I had never seen such huge ones blooming.

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LONDON DRIVES - NEW SERVICE

Marvin Black

We got really excited about John Pemberton's new idea. His just-finished brochure (he sent us copies in August) of "London Drives" suggests 18 different in-city drives and two drives beyond. It says, "WE COLLECT YOU. WHEREVER YOU ARE. WHENEVER YOU LIKE. The ideal introduction to London is to be wafted quietly about with no effort at all in the comfort of a chauffeur-driven car. You will pass many famous places, pausing here or there to take a photograph, to explore, to pop into a shop, or perhaps see the Queen going by. You set your own pace. With London Drives you are never tired. You'll find your drive much more relaxing than a coach tour." To rent the chauffeur-driven car costs $40 to $75 for the two-to-four hour tours; up to four passengers can share the listed cost, making it quite affordable. One of the tours is "Small Gardens in the City," showing a surprising variety of plants and tiny public gardens doing very well in the difficult conditions of the heart of Old London. Another is a suburban tour to the garden at Clivedon. Finally, there is an all day, 9-hour dream tour into the Cotswolds, to the gardens of Hidcote, Kiftsgate and Sezincote, including a stop at a country pub, for about $160--nearly as cheaply as one can get there in any other fashion, but with a chauffeur as guide. We found that John Pemberton added about two days' worth of England to our visit in one fine afternoon; he's a whiz. We'll try others of his tours. Address for the new brochure: LONDON TOURS, 39 Craven Hill Gardens, London W23EA, or ring him up in London, 01-863-5611, ext. 2451, or 845-3414.

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LAYERS OF A HOKKAIDO FOREST

Brian Halliwell, Royal Botanic Garden, Kew, England

Part I: Some Japanese Forest Trees

Hokkaido, the northernmost of the large islands which make up Japan, is mountainous with only small areas of low-lying land, which is mostly coastal. Winters are cold with extensive snow cover, especially on high land where it can be long lasting. Summers are warm with a moderate rainfall and there are local areas where the weather is affected by both cold and warm coastal sea currents. Major development seems to have taken place on Hokkaido relatively recently and much of the land is still covered with natural vegetation. Except for areas which have been cleared in valleys and along the coast, the island is still covered with forest, which extends up mountains to about 4,000 feet where it is replaced by alpine scrub. These forests must be amongst the richest of all in temperate regions for they contain such a wealth of species and it is only very occasionally that one or a few species become dominant. There are, as in most forests, four layers: at the top, the tree canopy above the shrub layer, below which is forest floor cover, and growing up through the shrubs and on the trees are the climbers.

This article is concerned with the forest trees which I saw when I made a visit to Hokkaido in late September and October of 1979. At this season, the fall colour had enormous impact. It is said that the fall colour of the forests and woods of the eastern part of North America has no rival, but that exhibited by the forests of Japan must pose a strong challenge.

The Hokkaido forests are composed almost entirely of deciduous trees with only a few conifers: three pines, *Pinus pentaphylla*, *P. laevis* and *P. densiflora*; two spruces, *Picea glehnii* and *P. jezoensis* and one fir, *Abies sachalinensis*.

The species content of the forest seems dependent on latitude, altitude soil depth and type and climate. There are genera which are common to Europe and even more with North America, but few are peculiar to Japan.

Although most willows are shrubby and extend into alpine regions, there are seven which make trees. These occur at lower elevations on wet soils, usually along the banks of rivers and streams. Alders also favour wet soils and have an extensive altitude range, extending to the northernmost tip of Hokkaido. Whilst most are shrubby, even dwarf on mountain tops, four can make small trees at lower altitudes. Two cottonwoods make substantial trees, but these are seen in lowland forest most often as regrowth on once-cleared land. By October, all species of these genera had shed their leaves and so could not be identified.

The final group of catkin bearers, the birches, however, still retained their full fall colour where leaves varied from a lemon-yellow to a rich gold. Whilst these occurred in lowland forests and often were to be found amongst regrowth, they were far more common to the north of the island and in sub-alpine regions where they were often shrub-like. There are four species which make trees, and some of these at higher elevations were already beginning to shed their leaves and so expose their attractive trunks. One which was somewhat similar to the American canoe birch (*Betula papyrifera*) was *B. platyphylla*,

but with trunks more silvery than a clean white. The same bark colour could be found on *B. maximowiczii*, although, more often with this species, it was a rich orange-brown. This last colour was repeated with the trunk colour of *B. ermanii*, but it's colour ranged in shade from orange through to a deep, shining brown, and there was a pink hue on newly exposed bark. Quite different was that of *B. davurica*, for although there were grey patches, the bark was very dark, almost black with warty protusions.

None of the nut trees would attract attention with fall colour, which at the best would rarely be better than straw-coloured. The Japanese walnut, *Juglans ailanthifolia*, had large quantities of edible nuts, but these were small. On the other hand, *Castanea crenata*, the Japanese chestnut, produced large nuts. A buckeye, *Aesculus turnbinata*, made a magnificent tree with a large spreading canopy, but although the ground under all the trees I found was thickly covered with spineless seed case, never once did I find any seed. Under beech trees, the ground was thick with cases also, but within many there were seeds. Although I opened many, in not one did I find an embryo; no doubt like so many species of *Fagus*, there must be only some years when good seed is produced. The fall colour of *F. crenata* was a rich brown; this was the only tree I found in a Hokkaido forest where one species became dominant.

Of two kinds of lime, two of ash, three hornbeams and two elms, only the last pair was spectacular in it's golden fall mantle, although the fruits of hornbeam with the soft cone-like fruits with papery overlapping bracts, were interesting.

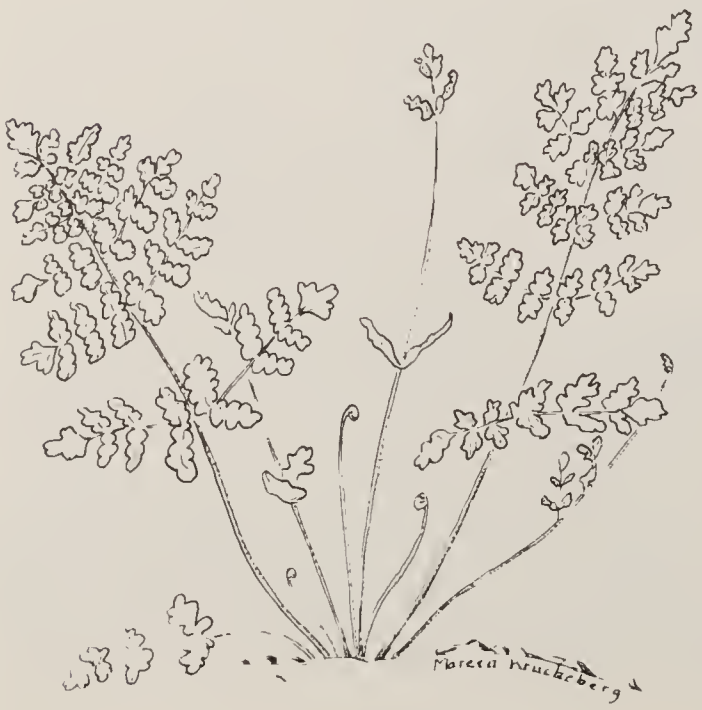
In North America, much of the brilliance of fall colour is provided by oaks with scarlets, crimsons and maroon. Of three species which occur in Hokkaido, I saw only *Quercus mongolica*. This was seen in lowland forest as small trees, although I understand that mature specimens can reach 100 feet. On this oak, leaves were still green and I can find no mention of them having any brilliance; it seems that they turn quickly from a straw colour to a brown and then quickly fall.

The colour of American oaks can be rivalled by maples, and in Japan, it is these which produce the greatest brilliance. There would seem to be nine species in Hokkaido, but the one which I found easiest to recognize was *Acer palmatum*, although it made a much bigger tree, up to 50 feet, than I am used to seeing in gardens where usually it is no more than a medium, even a dwarf shrub. In the forest canopy where light was good, the leaves were a glowing scarlet, but in the deeper shade of the forest, leaf colour was golden-yellow. Almost as good, but yet, not achieving the brilliance of the maples were cherries and mountain ash. There are many kinds of cherries in Japan of which the best known are those commonly called Japanese flowering cherries, cvs of *Prunus serrulata*; this species, however, does not occur in Hokkaido. Mostly the cherries were to be found in lowland forest where they could be seen as large trees, although they were most frequently encountered amongst regrowth on forest fringes. *Prunus grayana* was the only species I was able to identify and this was in fruit which was small, round, black and whilst tart, not unpleasant to eat. Leaf colour was a dull red or maroon and whilst it stood out in the forest, it did not glow. This could not be said for *Sorbus matsumurana* which began as pink and changed to a brilliant incandescent scarlet. It ranges from a medium-sized tree in lowland forest to a small compact shrub on alpine moorlands. Although often seen laden with fruits, the greater brilliance of leaves dimmed the lesser glory of the

bunches of orange-scarlet berries. Somewhat similar in appearance, and with the same compound leaves which were almost as brilliant, was *S. commixta*, but this was more often found in lowland forest. Another species, but with simple oval leaves was *S. alnifolia*, again a content of lowland forest which was commonly seen planted along road verges.

Japan seems to be the halfway house for magnolias, which occur both in Asia and in North America. In Hokkaido forests, a common tree is *Magnolia kobus*, which can exceed 50 feet with wide-spreading branches. This tree makes up for the smallness of it's flower by their sheer quantity. These are produced in April before the leaves expand, and there are few more breathtaking sights to see than their sheer mass of pure white against a springtime-blue sky. There is a second period of interest for before the leaves fall; they turn to a pale gold. A less common tree in these forests is another species, *M. obovata*, or more correctly now, *M. hypoleuca*. Although described as making a tree as large as *M. kobus*, I never saw one larger than 20 feet that had a sparse, almost gaunt framework of branches. Produced in terminal rosettes were clusters of very large oval leaves, which on young trees measured more than two feet in length. Fragrant cup-shaped flowers with cream petals and reddish-purple stamens, which can be nine inches in diameter, are produced in June. In October, these large leaves turned yellow and the large knobbly cone-shaped fruits, though greenish, were splashed with red; as these ripened they split open to reveal scarlet seeds.

The last tree, confined to China and Japan, and seen in the United States only in Arboreta, is *Cercidiphyllum japonicum*. This can make a very large tree, often multi-trunked of 100 feet or more with a large spread. It's leaves, which are opposite, are broadly oval, heart or kidney-shaped and resemble those of the judas tree, *Cercis siliquastrum*, as it's generic name suggests: the fall colour of these was a rich gold. Often the tree seen in cultivation is small, little more than a large shrub, but with the fall colour of it's leaves a rich crimson. It was long thought that this must be the Chinese form and, in fact, this difference in fall colour was one of the characteristics used to separate the two geographical races. This is now disputed, at least in the latest edition of Trees and Shrubs Hardy in the British Isles, by W. J. Bean; perhaps this form that has the crimson fall colour is the cv 'Magnifica.'



NOHS NOTE PAPER

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GEORGE SCHENK'S WILD GARDEN

Roy Davidson, Bellevue, Washington

The proprietor of this small distinguished mail order nursery was self-described in one of its last plant lists as "a hermit who shuffles about harmlessly muttering to plants, dreading human company and admitting no visitors....not (he later apologized) that anything particularly shameful goes on here."

Originally on the grounds of his parents' residence, looking Mount Rainier in the eye from a sandhill to the north of Lake Washington, the Wild Garden Nursery could not accommodate multitudes of customers, and so it was rigidly kept a strict, mail-order operation. Periodically, however, it was open by invitation on social occasion, as later too were the innovative, diverse and delightful gardens that conjoined with his own residence next door. It was a unique nursery in many ways; a lady visitor, ankledeep in alpine flowers, quite seriously asked, "But where IS the nursery...?" She was, of course, in the midst of it; just as the garden WAS the nursery, so also was the nursery the garden, at least in part. The regimen of the one-man plant business--as this essentially was--cannot be disrupted if it's continuity is to remain intact, for today may well be the optimum time for increasing certain things which otherwise may know no tomorrow. (Let George do it: "Plants WANT to propogate.")

The Wild Garden has been closed, it's post-box relinquished with no forwarding address. Enquiries can only be returned to sender. It's proprietor has retired to a garden he has been building in New Zealand. But for his taste, his skill as grower and propogator, as well as for his writings, all our lives would have been far leaner. The book he produced for Lane Publications (1964) known universally as "George's Sunset Rock Garden Book" is a treasure long out of print in which were expressed very broad interpretations--with convincing clarity and very few rules--just WHAT it is all about. Occasional writings elsewhere are equally lucid, informative and inspirational GOOD reading.

In 1960 he staged a one-man plant show for the local rock garden chapter and guests, and in 1967 another, to which members contributed specimen material, open to the public in the Eames Theatre of Pacific Science Center, Seattle. A third notable display clearly showing his talent for this special sort of stagecraft was that of ferns for the Interim Rock Plant Conference on the University of Washington campus in 1976. Of the first he wrote that "the best thing about it was it seemed to generate a lot of happiness all around."

Those of us who personally know this most modest, gentle man do not recognize the crank he would have as his public image. His hospitality, for example, is the boundless fabric of demi-legend, from an impromptu barbecue for ten at the end of a long day of garden visitations ("Just give me twenty minutes headstart.") to the ten-hour, ten-course, authentic medieval dinner for forty, personally researched and supervised, three days just in preparation, and complete with period musicians, mead, fanfares and roasted pea-fowl, all in joyous celebration of Spring. ("I like to eat, SO I like to cook.")

We all look forward to further writings and to promised occasional visits, and we all wish him Good Gardening, Down Under. Not one of us will soon forget the Wild Garden plant lists which gave us so much to anticipate, so much advice and many a chuckle. *Dicentra* 'Alice Faye' was launched thusly: "What a great MOO of a plant....rosy pure bleeding hearts weeping deliciously; those who've always loved the girl--my last public heart-throb, when I was nine--they will understand." "Motives tending to separate landscape gardeners from collector-gardeners are as different as logic and love." "*Zauschneria arizonica* wants heat, a melon-and-magpie climate." "Character in a plant is the sum of its genetic memories," and "Alpine gardening is the study of drama in Nature expressed in plants."

Certain irises were likened in their ample grace to "a meadow-ful of Gabors," while on *Sempervivum arachnoideum* we were admonished, "If you want *minima* you starve, you want *maxima* you feed." "The magical charm of these certain plants is that they seem too-fragile vessels to hold a thing so eager to escape as life." The birth-notice of a precious, small shrubby *Potentilla* proclaimed, "I am guarding this one with a brace of snapdragons!"

A Highlands Fern, *Blechnum spicant*

Roy Davidson, Bellevue, Washington

We were returning from the excursion to Inverewe (a wonderful garden in Northwestern Scotland); it was a fine afternoon with the May sun glinting off the heathered moors as the coach sped along the high road back to Inverness. An old and apparently abandoned cottage served as a handy place to stop and stretch our legs. Below the road a steeper slope undercut by the wind had become a nurse-bed of fern sporelings. What grew there looked much like the southern hemisphere *Blechnum penna-marina*, but that just could not be! And so a small collection was popped into a handy baggy for growing on.

These hard ferns have now grown to about twice the dimension of the southern one and proven by their fruiting fronds to be true *blechnums*. The ferns books call them *Blechnam spicant*, the species of our own wet woodlands, and Vascular Plants of the Pacific Northwest remarks that American forms tend to be "a little more robust than European ones, but are scarcely separable taxonomically." These little ones of 1974 had grown to about half the size of those roundabout in the Northwest. Since it had remained so, I took the opportunity when in Scotland again, in the autumn of 1979, to gather more, this time from the Cairngorms.

In my opinion this lesser one definitely has a place in the garden when such a tidy evergreen rosette is wanted. Accordingly, it is being propogated, and I propose it be known as *Blechnum spicant* "Highlands Form." It has proven very easy whereas the Japanese species have not.

N.O.H.S. NOTES

Winter 1981

Supplement to Horticulture Northwest

ABOUT OUR MEMBERS

A new honor medal designed by sculptor, Charles Parks, in memory of Natalie Peters Webster, was awarded for the first time this year by the Garden Club of America at their annual meeting. This medal is awarded for horticultural ability in growing unusual plant material. The recipient was Betty Miller.

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N.O.H.S. Seed Exchange:

We wish to thank Mary Kenady for her great efforts to make this exchange successful. It has been time-consuming, but not thankless. There has been much appreciation by those participating "green thumbers" and especially when rewarded by a tiny new plant of an interesting species.

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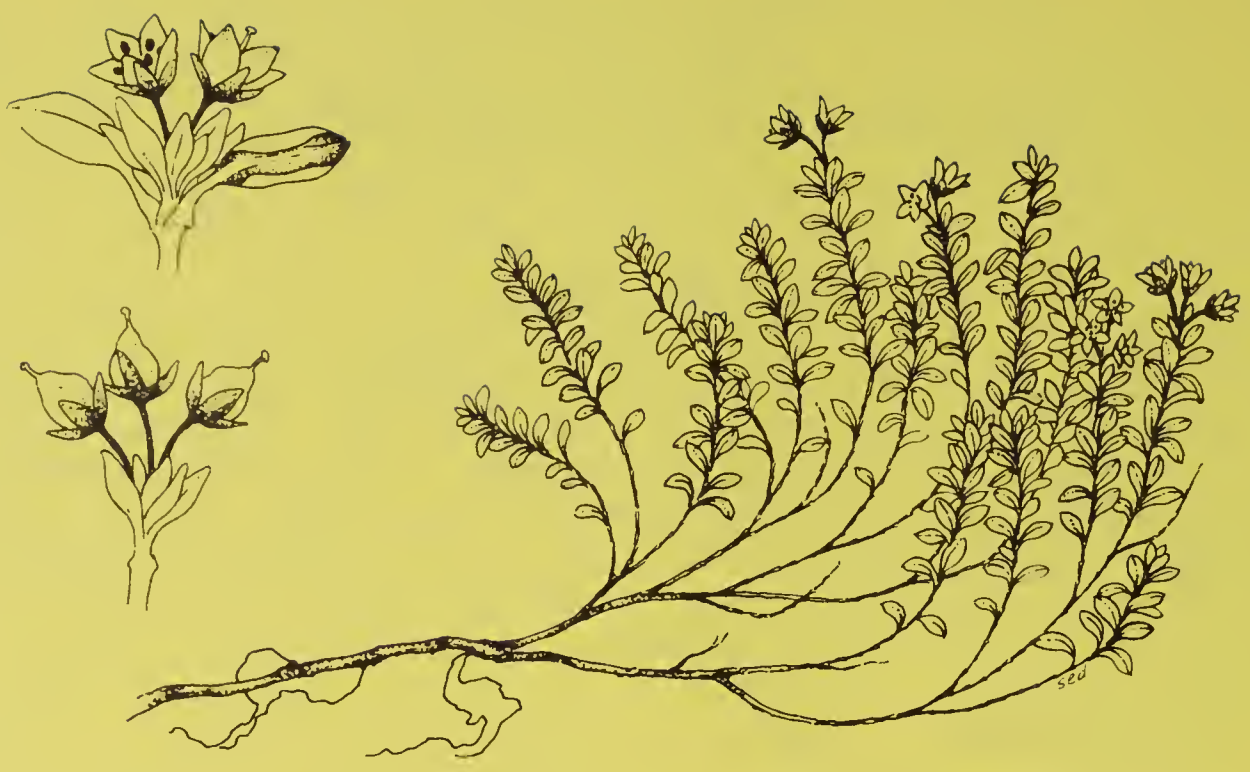
CONGRATULATIONS

TO OUR 1981

NOHS PLANT SALE RAFFLE WINNERS

Rhododendrons:	Alice Jorgensen Bobbie Fowler Fran Hilen Evie Douglas Mayde Anderson
Trees and Shrubs:	Deanna Garton B. Edwards
Ground Cover:	Jean Wilcox
Ferns:	June Coster
House Plants:	Dennis Thompson
Collector's Corner:	Rosee Koketa
Bonsai:	Margaret Mulligan



NOHS Note Paper and Envelopes: Four distinctive botanical drawings by Sally Dickman and Mareen Kruckeberg, 5-1/2" x 4-1/4", eight notes per packet, two of each drawing, $3.00 postage paid. Order from: Sallie D. Allen, 18540 - 26th Avenue Northeast, Seattle, Washington 98155. Make checks payable to NOHS.

Membership Application
NORTHWEST ORNAMENTAL HORTICULTURAL SOCIETY

Policy:
To give financial support to the University of Washington Arboreta Program and to other horticultural education endeavors.

Membership activities encompass:
Lecture Series, Study Groups, Annual Fern and Plant Sales, Tours of gardens of horticultural interest, Horticultural Journal.

(Please fill in form as you wish information to appear in yearbook.)

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Name _____ (First Name) _____

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(Membership renewals will come due January, May and September, whichever month is closest to date of Membership Application.)

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☐ Active (Individual) $15.00
☐ Group or Family $20.00
☐ Nursery (Member Listing) $20.00

COMING GARDEN EVENTS

Soils Be It: The Root of Everything

Charles Pfeiffer, Ph.D.
Soil and Plant Lab, Inc.
Soil and Management

William Shannon
Soils Engineer
Geology and Gardens

Robert Zasoski, Ph.D.
Assistant Professor, Forest Soils
University of Washington
Characteristics of Local Soils

*This 1981 lecture repeated by popular demand.

Tuesday, January 19, 1982
10:30 a.m.--Lecture
McCurdy Room
Museum of History and Industry
2161 East Hamlin Street
Seattle, Washington

Things You Never Knew About Trees

James R. Clark
Assistant Professor
Environmental Horticulture
University of Washington

One needs to know the ultimate shape and form when selecting a tree for the garden.

Why trees grow into the shapes they become.

Tuesday, February 9, 1982
10:30 a.m.--Lecture
McCurdy Room
Museum of History and Industry
2161 East Hamlin Street
Seattle, Washington

Soils Be It: The Root of Everything

Sponsored by the Tacoma Garden Club.

Wednesday, February 17, 1982
1:30 p.m.--Lecture
Washington State Historical Society
315 North Stadium Way
Tacoma, Washington

WELCOME NEW MEMBERS

BOYD, Mrs. Hirschell H. The Highlands, Seattle 98177	(Marili)	365-5720
DRAPER, Mrs. Fin, Jr. 3801 46th Ave. NE, Seattle 98105	(Sally)	523-9773
DICKERT, Mrs. Dennis A. 19518 67th Ave. NE, Seattle 98155	(Priscilla)	486-3167
FOWLER, Mrs. Doyle E. 2043 Killarney Way, Bellevue 98004	(Barbara)	454-3597
GRIER, Mrs. Charles C. 20010 108th NE, Bothell 98011	(Kathleen)	485-8931
KUCPRZYNSKI, F. Suzanne 6548 1st Ave. NW, Seattle 98117		789-5429
LUTNER, Robert M. 7009 Linden Ave. N, Seattle 98103		782-5438
MANGELS, Mrs. Hans Box 298, La Conner 98257	(Lola)	466-3269
MUIRHEAD, Mrs. C.W. Corner Stones Aglionby CA4-BAQ Carlisle ENGLAND		
MIKUM AND SPAULDING 911 Western Ave., Rm. 400, Seattle 98104		382-4444
SPOOR, Mrs. Rhys 7707 212 SW, #13, Edmonds 98020	(Robin)	774-9049
THOMPSON, Dennis 124 N 181st St., Seattle 98133		546-4258
VASASITIO, Regina N. 10433 NE Broyunwood Ln. Bainbridge Island 98110		845-5807
WALKER, Dr. Vm 2531 NE 83rd, Seattle 98115		522-6180

DESTINATION YELLOWKNIFE

NORTHWEST TERRITORY

Sallie D. Allen, Seattle, Washington

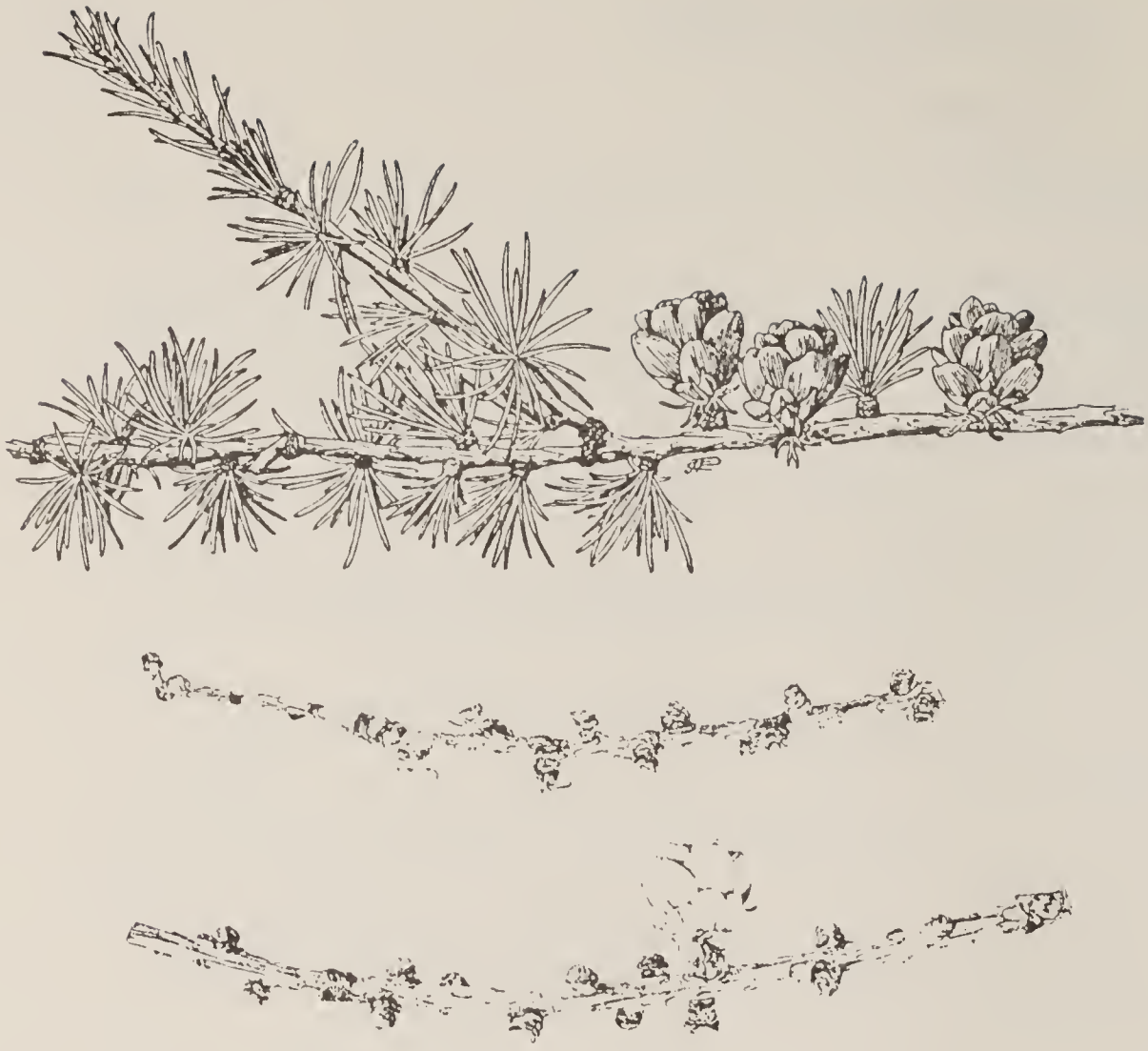
In planning our two-week summer vacation, late July 1981, we studied the maps of Northwest Territory, read all of the literature we could obtain, and, looking back, I'm not just sure what our expectations were, nor did it prepare us for vast unspoiled wilderness. The 60th parallel is the southern boundary of this enormous territory which comprises one third the total area of Canada. It is larger than Texas, Alaska, California and New Mexico combined; 2,040 miles east to west, 2,115 miles north to south. The total population is only 46,000, well over half of which is Inuit (Eskimo), Dene (Indian) and those of mixed ancestry; the remainder Caucasian. The Northwest Territory boundary to the south is 615 miles north and slightly east of Edmonton, Alberta.

First of all we readily admit that driving 4,000 miles in two weeks is far too much, making it impossible to linger long in any one spot, however, we were on a scouting expedition and already plans for two future trips are forming in our minds. At present, there are just two roads into the territory, the MacKenzie highway coming from the south, terminating at Yellowknife on the north shore of Great Slave Lake and the Dempster Highway from just south of Dawson, Yukon Territory, to Inuvik on the MacKenzie Delta near the Beaufort Sea. This may very likely be our next adventure to the far north.

Although we had taken our camping equipment with us, we decided upon motel accommodations with housekeeping facilities so we could cook our own meals as restaurants were very expensive. The variety and quantity of biting-type insects, coupled with the numbers of bears in the Territory, discouraged our early camping expectations. Our first night above the 60th parallel was in Hay River on the south shore of Great Slave Lake, in a modern hotel as motels were few and already booked. It seemed strange that none of the accommodations in this town of over 3,000 population were in view of the lake. After settling in, we drove down to a lovely sandy beach, where we first realized the enormity of the lake--water as far as the eye could see. It was hot and clear and many Hay River residents were enjoying picnic suppers on the beach.

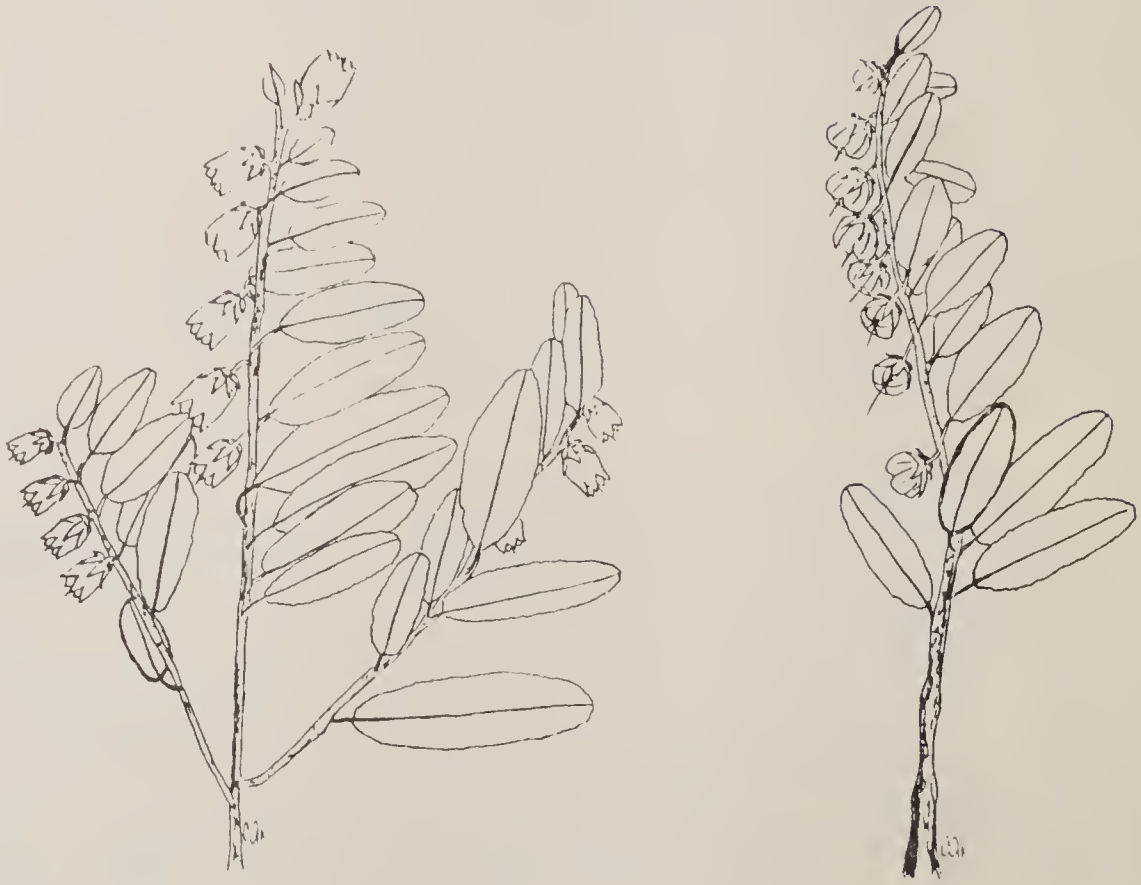
The flora was interesting in this one small area where we parked the car. One of the most widespread shrubs seen continuously during our trip was *Shepherdia canadensis*, an attractive deciduous shrub, with elliptic leaves, green above and with rusty scales beneath. The small flowers are insignificant, however, the red fruit borne in profusion would make this a worthwhile addition to a sunny spot in the garden, if we could learn just how to cultivate it successfully. It seemed to take two forms, one an open, rather rangy habit to four or five feet in height, with leaves about an inch in length, the other a more compact shrub, with leaves about half the size. There were not a great many displaying the fruit, although I have seen them in Wells Gray Provincial Park in British Columbia, where they were very showy during fruiting season. Beneath were numerous ground covers, a very small form of *Vaccinium vitis-idaea* var. *minus*, perhaps the most prevalent plant seen, *Pyrola grandiflora*, the large-flowered wintergreen and probably *P. minor*, similar but smaller.

A pretty little ground-covering plant that puzzled us at the time, but was identified by Jean Witt when we returned home, was *Comandra livida*, with unbranched stems about four inches high, deciduous, alternate leaves and quite



Larix laricina
Natural size

Chamaedaphne calyculata
Natural size



Illustrations reprinted from Alaska Trees and Shrubs by Leslie Viereck and Elbert L. Little, U.S. Department of Agriculture, Forest Service, Agriculture Handbook No 410.

large orange, single-seeded fruit. If we had realized that it was parasitic on the roots of trees or plants, we would have been more observant to determine just what is needed to grow this plant. We did collect seed. Also intermixed with the above was *Linnaea borealis* var. *americanus*, very compact in habit, with tiny leaves just over a quarter of an inch long. Two *Ledum* species were there, *L. palustre* and *L. groenlandicum*, found in various soils but were dominant plants of peaty muskegs.*

The next morning, we began our trek over a fine, hard-packed gravel road to Yellowknife, 307 miles distant. I was amused by the road signs, "dust-free passing lanes, 12 km." Cars were infrequent, coming or going, and where it was necessary to overtake, it was never near the designated dust-free areas, actually watered down continuously by highway crews. We were not prepared for the flatness of the country, the apparent lack of rock or rocky outcrops. We seemed to go through three distinctive vegetational populations: birch and aspen groves, of somewhat stunted growth with underplantings of *Linnaea*, two low-growing junipers, one of open decumbent habit, the other completely prostrate, with long, thin but dense tennicles, blue-green in color, and the ever present *Vaccinium vitis idaea minus*. There were frequent muskegs, of dwarf *Picea glauca*, *P. mariana*, the black spruce and *Larix laricina*, with soft blue green needles. The shrubs included many *Ericaceae*, the beforementioned ledums, *Chamaedaphne calyculata* and possibly the var. *nana*, and again the little *Vaccinium*. The third population was dominated by a *Pinus* species, which looked like *P. contorta*, but probably *P. banksiana*. Somehow we failed to stop to explore the flora beneath the pines.

One stop was made because our curiosity got the best of us. We kept seeing what looked like pools of ice, sort of shimmery indentations; we knew better because the temperature was 85°. Upon closer inspection, we found they were very shallow rock basins. We treated the area with caution as there were numerous deep fissures in the rock, not wide enough to fall into, but certainly of a size to injure a foot or ankle.

Just over one hundred miles from Hay River, we reached the MacKenzie River whose headwaters are Great Slave Lake. We crossed on a ten-car, free ferry near its source, where it begins its long journey to Beaufort Sea, through what must be a fascinating unspoiled mountainous route. The ferry operates from May to November (depending upon the weather) but during the winter an ice bridge is maintained to accommodate vehicles, with an in-between period in late fall and spring when the northern settlements are cut off from vehicular travel. Supplies can be barged across Great Slave Lake from Hay River to Yellowknife when the lake is not frozen.

From the highway we drove the three miles to the little Indian village of Fort Providence situated on the banks of the Mackenzie River. There we found the neat, rather small government-built housing for the 500+ Indian population, and to our great surprise, we came upon the Snowshoe Inn, a very modern, well-equipped motel, overlooking the river, with accommodation for 65 people. Across the street was a restaurant with licensed dining, cocktail lounge and gift shop. Since it was cool and lovely, we made reservations for our return from Yellowknife; we had no desire to go back to the hot hotel in Hay River.

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*Muskegs--see Horticulture Northwest, Vol. 7 No. 4, Winter 1980, page 71, Ketchikan Muskegs, by Sallie D. Allen.

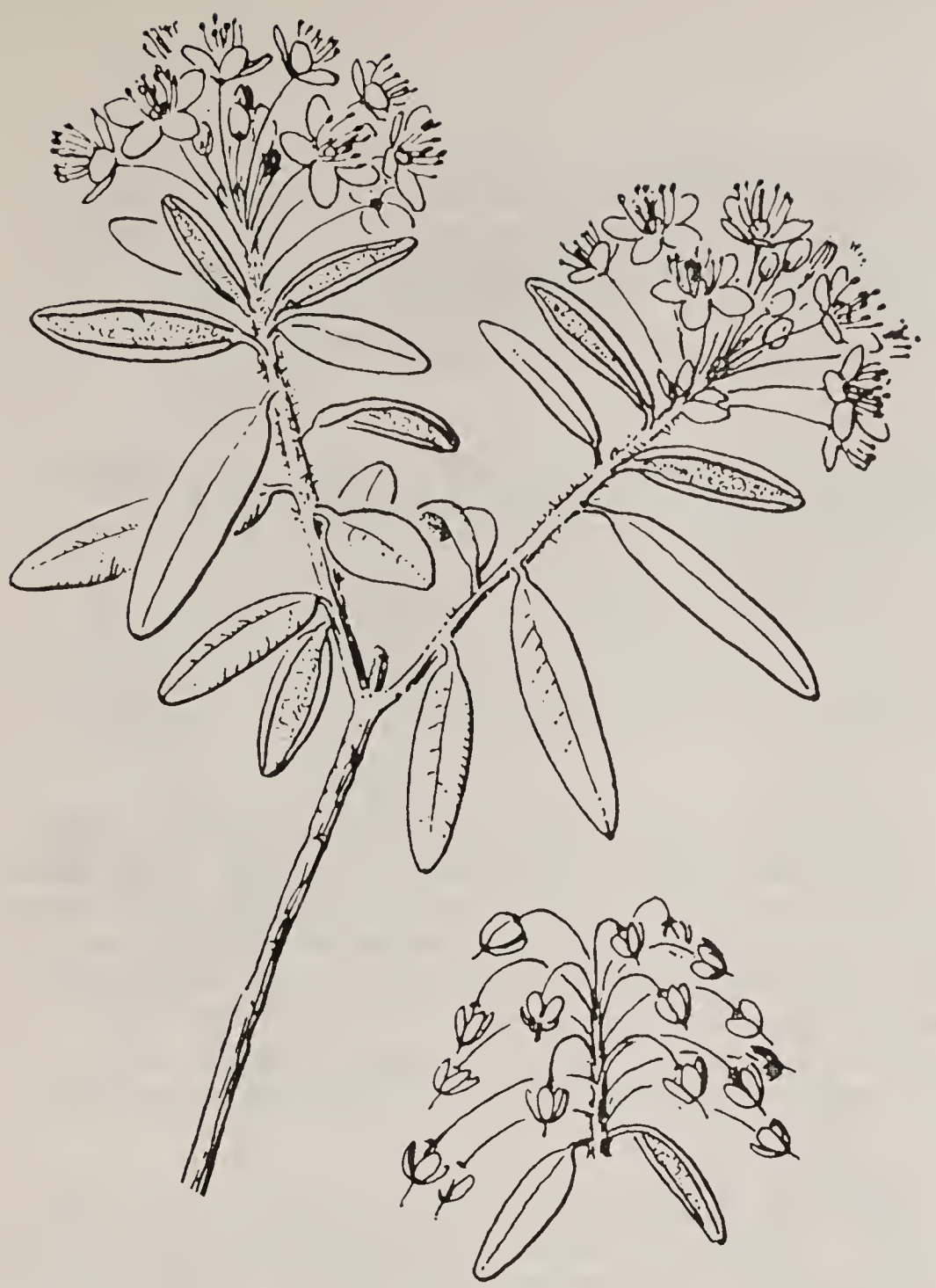
The only other communities before reaching our destination, were the two Indian villages of Edso and Rae, which were the most northerly locations on the highway. From there we turned in a south-easterly direction. The scene changed; the muskegs were broken by areas of rounded white rock which by appearance promised an interesting collection of alpine plants. However, we found that the flora was not diverse, the dense cushions that we had been seeing were all *Saxifraga tricuspidata*, occasionally we saw *Arctostaphylos uvi-ursi* and around the perimeter, *Vaccinium vitis-idaea minus*.

It seemed a shame that there were so few places where the lake could be seen from the road. We were feeling much like pioneers in the wilderness as we saw only a half dozen or so cars on what continued to be a fine gravel road. We passed an airport which came as no surprise as flying is a way of life in the far north. However, we were surprised when, upon rounding a corner, we saw the modern city of Yellowknife, population 11,500, with multiple-storied buildings, including fine-looking hotels, office buildings, supermarkets, restaurants, and every service that anyone could desire.

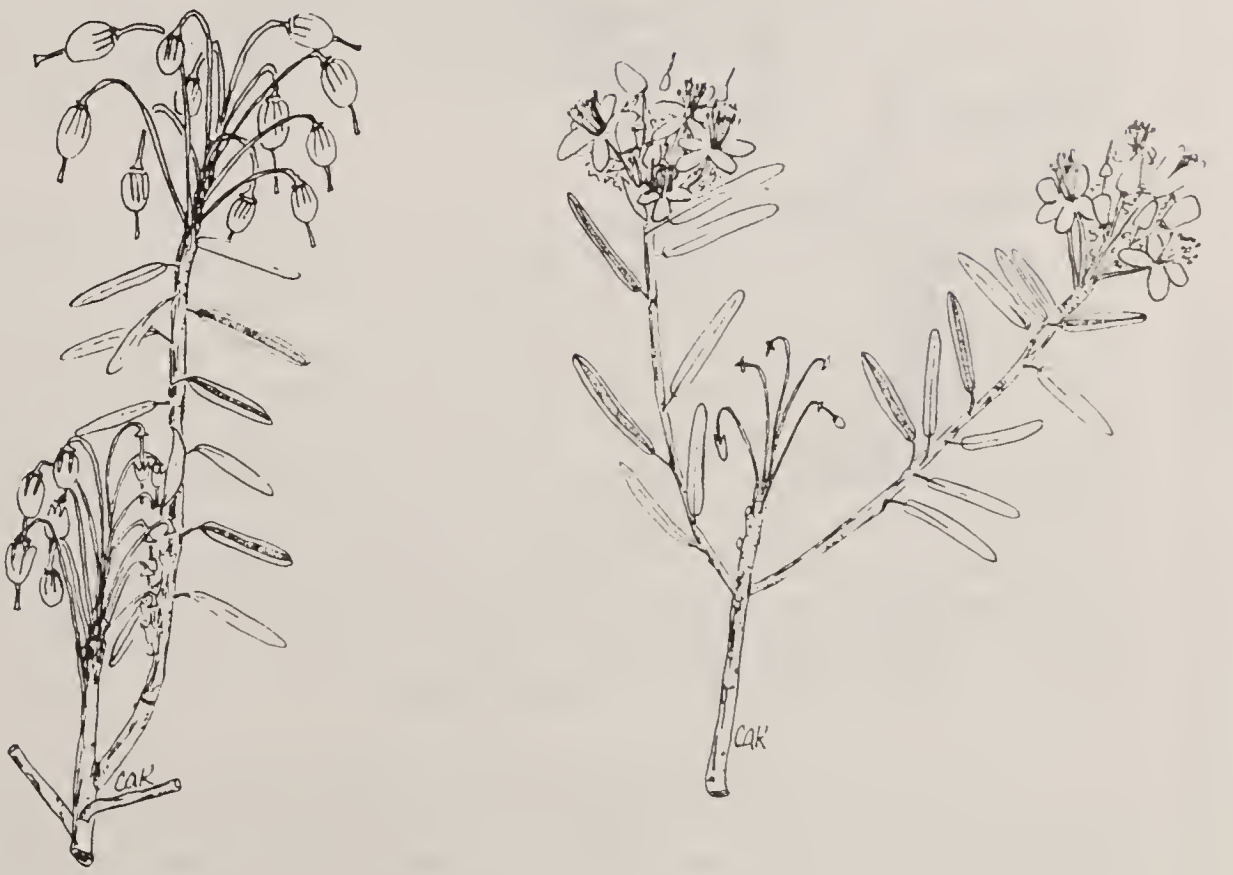
The following day we explored the Ingram Trail, a good gravel road extending 45 miles to the east, this time taking the time to thoroughly investigate what looked like interesting plant-hunting areas. One of the things I wanted to find was *Ledum decumbens* (*L. palustre* var. *decumbens* by some botanists) the smallest member of this very interesting genus. Our first muskeg stop was in an area of dense thickets of knee-deep shrubs (we soon learned that these were not the most desirable for plant hunting), although we were able to compare the *Ledum* species. I was unsure of my identification of what I thought was *L. decumbens*, a compact shrub with half-inch leaves, not as strongly revolute as I felt they should be. Once we found the right plant there was no doubt, as the leaves are so recurved that they are needle-like in appearance. The other was a very compact form of *L. palustre*; the third species found was *L. groenlandicum*. Curiously, there did not seem to be any hybrids, whereas here in my garden various *Ledum* species freely hybridize, producing a wide variety of intermediates.

We soon learned that the more open muskegs, where the red peat was visible between plants, were the most interesting and the most likely to produce small seedlings of an appropriate size to collect. Each stopping place had a basic unique community of peat-loving plants, some found only there while others seemed equally happy in woodland duff or what appeared to be a soft glacial flour. One of these natural gardens looked as if it had been recently landscaped with small compact plants surrounded by dark red peat, dry on the surface, but damp and spongy beneath. There was no living sphagnum visable. The two spruces, *Picea mariana* and *P. glauca* were very dwarfed and attractive, as was *Larix laricina*. The dominant plant was *L. decumbens*, the evergreen strongly revolute leaves had rust-colored matted hairs on the underside as well as on the twigs and pedicels. Also found was *Vaccinum uliginosum* var. *alpinum*, a low, much-branched shrub densely clothed in small oval deciduous leaves with a bluish cast. There were many small compact plants of *Andromeda polifolia* with ripening seed capsules, and dwarfed plants of *V. vitis-idaea minus* with large ripening red fruit.

Chamaedaphne calyculata nana has never been one of my favorite *Ericaceae*, as it always seemed leggy and unattractive in the garden, seldom producing its white urn-shaped flowers. However, growing in the wild in pure peat the plants were dwarfed to about 12 inches, compact and dense foliaged, with each branch covered with flowers, really a most attractive shrub.



Ledum groenlandicum
Natural size



Ledum decumbens
Natural size

Illustrations reprinted from Alaska Trees and Shrubs by Leslie Viereck and Elbert L. Little, U.S. Department of Agriculture, Forest Service, Agriculture Handbook No 410.

We noted one very curious thing; each place we stopped had the characteristic muskeg population, however, on each there was a differnt dominant plant, sometimes *Ledum decumbens*, or *Andromeda polifolia* or *Vaccinium uliginosum* var. *alpinum*. Only once did we see *V. oxycoccus* var. *microcarpus* with tiny evergreen leaves and ripening red fruit on thin pedicils. Occasionally we saw *Rubus chamaemorus*, a creeping herb, with large, deeply-veined, five-lobed leaves and a single berry per stem.

Across the road from our favorite peat garden we found very shallow soil, supporting drifts of *Vaccinium uliginosum* var. *alpinum* and *Arctous rubra* with scarlet juicy fruit. I had never before seen either *Artous* species growing in the wild and wondered how they could be distinguished one from the other, other than by the color of the fruit. *A. alpina* has much more deeply veined leaves. Both species are deciduous, the stems creep along the ground forming clusters of unrooted rosettes. To my knowledge they have never been successfully introduced, though they would be attractive additions to the sunny garden. Small compact seedlings were difficult to find.

Along the entire length of the highway from Edso to Reid Lake, either side of the road was dotted by lakes, large and small, some sparkling clear while others were brachish. The muskegs differed from those we were familiar with in southeast Alaska in that there were no small pit ponds. Reid Lake, where we enjoyed our picnic lunch, was lovely and clear, the campground pleasant and relatively free of the wide variety of biting insects that were so prevalent everywhere. We photographed families swimming and playing in the water. Someone in the party laughed and commented that we just wanted to prove that it occasionally got warm enough to swim in Yellowknife.

In a disturbed area of shallow soil, we added the Arctic birch, *Betula nana* to our growing list of native plants. *Parnissia palustris*, one of the few things in bloom, displayed snowy-white flowers an inch across, on six-inch stems, a very pretty perennial. We were intrigued with a little *Rubus* species, *R. idaeus* (?) that looked for all the world like the garden variety raspberry, only in minature, growing from eight to 15 inches in height. The only thing not dwarfed was the berry.

Upon our return trip to Fort Providence, another distinctive plant habitat attracted our attention, characterized by widely-spaced, neat clumps of vegetation reminiscent of shrubby penstemon. Upon inspection, we found six-inch mounds of an *Oxytropis* species in neither flower or seed for proper identification. The two forms of juniper were present at the edge of the woodland, and the dominant plant of that particular area was *Arctous alpina*....and, oh joy!....a seedling plant of a single rosette. One of the most thrilling discoveries was *Devas integrifolia*, with blue-green, recurved leaves, one-half inch long, completely prostrate in habit. Although the soil contained no peat, we found a good deal of *Andromeda polifolia*, the leaves bronze in color in the open. We did not linger long because the multitude of bugs of every description swarmed--the worst insect experience I have ever had.

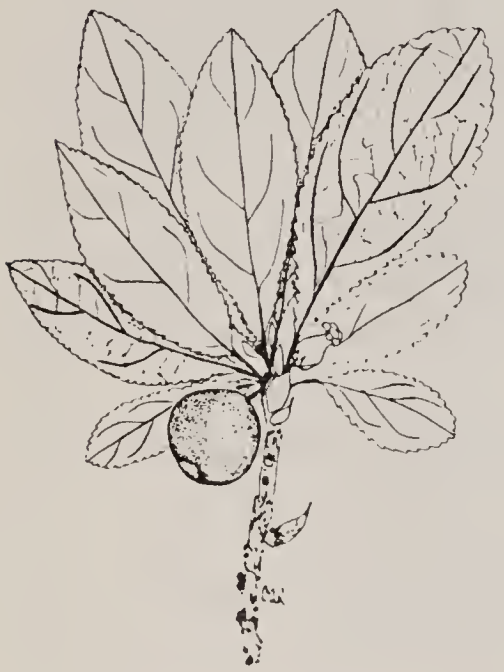
It was a rewarding trip for us, and we want to return when we have much more time--when we can include a boat trip down to the east end of Great Slave Lake, and possibly plan to fly into one of the remote fishing camps in the Arctic Tundra.

HELPFUL BOOKS

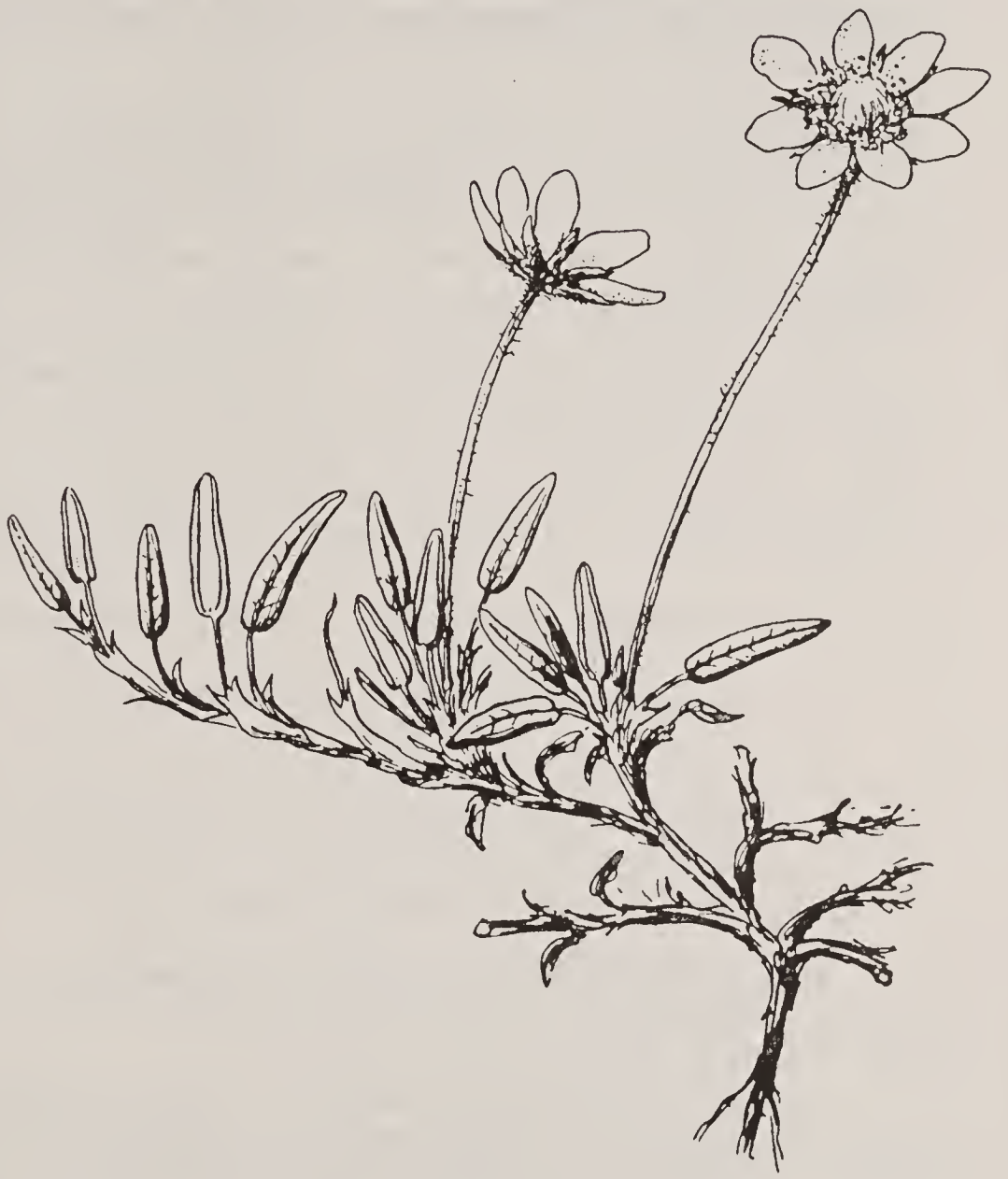
Alaska Trees and Shrubs, U.S. Department of Agriculture, Handbook No. 410, by Leslie A. Viereck and Elbert A. Little, Jr.

Flora of Alaska and Neighboring Territories, Eric Hulten, Stanford University, Press 1974.

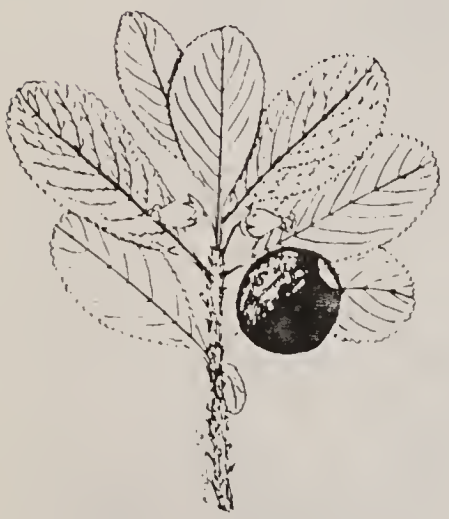
Illustrated Flora of the Canadian Arctic Archipelago, by A.E. Porsild, Bulletin 146, Biological Series No. 50, Canada 1964.



Arctous rubra
Natural size



Dryas integrifolia
Natural size



Arctous/Alpina
Natural size

Illustrations reprinted from Alaska Trees and Shrubs by Leslie Viereck and Elbert L. Little, U.S. Department of Agriculture, Forest Service, Agriculture Handbook No 410.

NOHS SEED EXCHANGE

Seed for Discriminating Gardeners

A seed exchange plays an important role in any organization's growth and development. It is an opportunity for members to share their treasured rare plants with others, as well as to obtain long desired plant material. The NOHS initiated such a seed distribution in January 1979 to broaden the scope of our activities and services to our members.

This is the fourth year for the NOHS seed exchange. We will need the cooperation of all members who grow unusual plants, and/or collect seed in the wild, in order to make it a success. We are looking for seed of trees, shrubs, herbaceous plants and spores of ferns which are: 1) little known and grown, rare and unusual, 2) predominantly, but not exclusively, Northwest American natives, or plants particularly appropriate to Northwest gardens; and which are not: 1) readily available in nurseries, 2) easily obtainable in other seed exchanges (American Rhododendron Society, American Rock Garden Society, etc.), or 3) hybrids.

The final date for seed donation will be January 15, 1982. A seed list will be published as soon thereafter as is possible, with an order form, and distributed to all members, air mail to overseas members. The orders of seed donors will be filled first. A small fee will be charged for each packet of seed to cover costs of packaging and mailing.

The following procedure should be closely observed in donating seed:

1. Seed should be fresh and apparently viable (collected recently).

2. Seed should be cleaned of excess dirt, debris, etc., wrapped in tissue or waxed paper (not plastic), clearly labeled as to genus, species, where collected, something about growing conditions if possible, and donor's name.

3. If seed cannot be sent in immediately, it should be stored in a refrigerator at approximately 40° F.

4. To mail, enclose all separately-wrapped and marked seed in appropriate size envelope, seal, mark with your name, return address, and the words, "Hand Cancel Only, Please" written in a conspicuous place on the front, and send to:

   Sylvia Duryee, 1115 - 41st East, Seattle, Washington 98112.

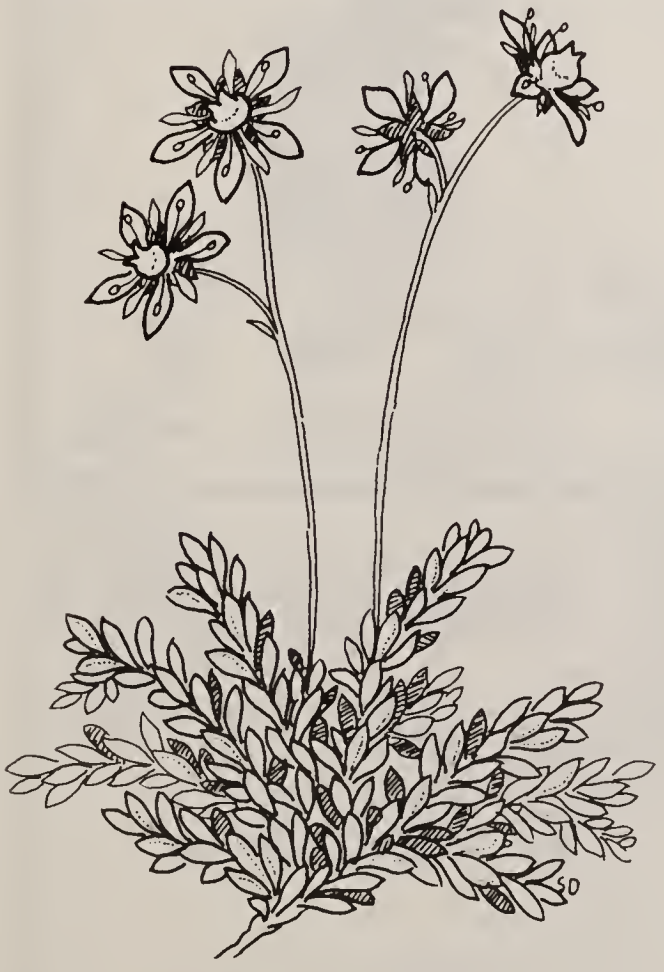
MERRY CHRISTMAS--HAPPY NEW YEAR!

Tidbits by Ladybug

Relative to the article In Search of Diplarche in the Sikkim Himalayas, by Keshab C. Pradhan, pages 61-63, the drawings by Phil Pearson were taken from projected slides, sent to Sallie Allen by Mr. Pradhan. The slides have disclosed two distinct species that fall within the descriptions given in the Supplement to the Royal Horticultural Society Dictionary of Gardening, page 269.

D. multiflora--has larger leaves, 5-6 mm. long, and longer inflorescences, 1.5 to 2 cm. in diameter, of 8 to 20 flowers. Sikkim, Bhutan, S. and S.E. Tibet, Upper Burma and Yunnan.

D. pauciflora--has smaller leaves 2.5 to 3 mm. long, and smaller (about 1 cm. in diameter) fewer flowered inflorescences. Sikkim, S. and S.E. Tibet.



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